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ABSTRACT

A heuristic procedure can be used to teach organizational skills to students of technical writing. Designed to allow students on their own to explore ways that numbers can be used to give a definite shape to technical information, its central feature is a matrix composed of a series of control numbers (horizontal axis) and organizing concerns (vertical axis). By making a correlation between a number and a concern, the student can generate a question about how to organize information. The function of the control number is the conscious use of something very familiar to give shape to an organizing concern. The concern is known through the number in much the same way as any person or thing is known through its name or location. Also a control number resembles a "halting" routine in a computer program. It tells the user when to stop doing what he or she has been doing or, alternatively, that all the instructions for accomplishing the task in question have been assembled. The concerns are those items that give structure to a text and include such items as segmentation, rhetorical contract, recoding, redundancy, defining criteria, salience, and special concerns (self-reference, noncontradiction, cohesion, graphics, and scope). When using the matrix, one can always add new concerns, substitute new ones for old ones, or experiment with different kinds of correlations. The matrix can be used to write an individual report, prepare a group project, or give an oral presentation. It can also be used as a visual aid in all these assignments. (HOD)

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ORGANIZING, CONCERNS AND CONTROL NUMBERS

Gene Washington

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ORGANIZING, CONCERNS AND CONTROL NUMBERS

No task, perhaps, is more central to the pedagogy of technical communications than text-organization. And none, with the possible exception of text-evaluation, gives us more problems. What procedures do we use to demonstrate ways to organize information? Should we focus on what will produce only specific kinds of technical reports, the proposal or written instructions? How much time should we give to discussing the parts of technical reports, the abstract, headings, or what should go in the beginning, middle and end of the report?[1]

Implicit in such questions, I believe, is whether or not we should follow algorithmic or heuristic procedures. Should we, that is, require that students always follow a set of rules on how a particular text should be organized, or should we allow them room to experiment? Explore, at their own time and perhaps in consultation with fellow students, alternative techniques for giving order to technical information?

THE MATRIX

All things are limited by number.
Aristotle.

The procedure I want to describe here is essentially a heuristic one. It is designed to allow students, on their own, to explore ways numbers can be used to give a definite shape to technical information. Its central feature is a Matrix composed

of series of Control-Numbers (horizontal axis) and Organizing Concerns (the vertical axis). By making a correlation between a Number and Concern, a question about how to organize information is generated. Each possible correlation, for easier reference, is given a name like A*1, B*2, or C*3.

Figure 1. shows the correlation A*1:

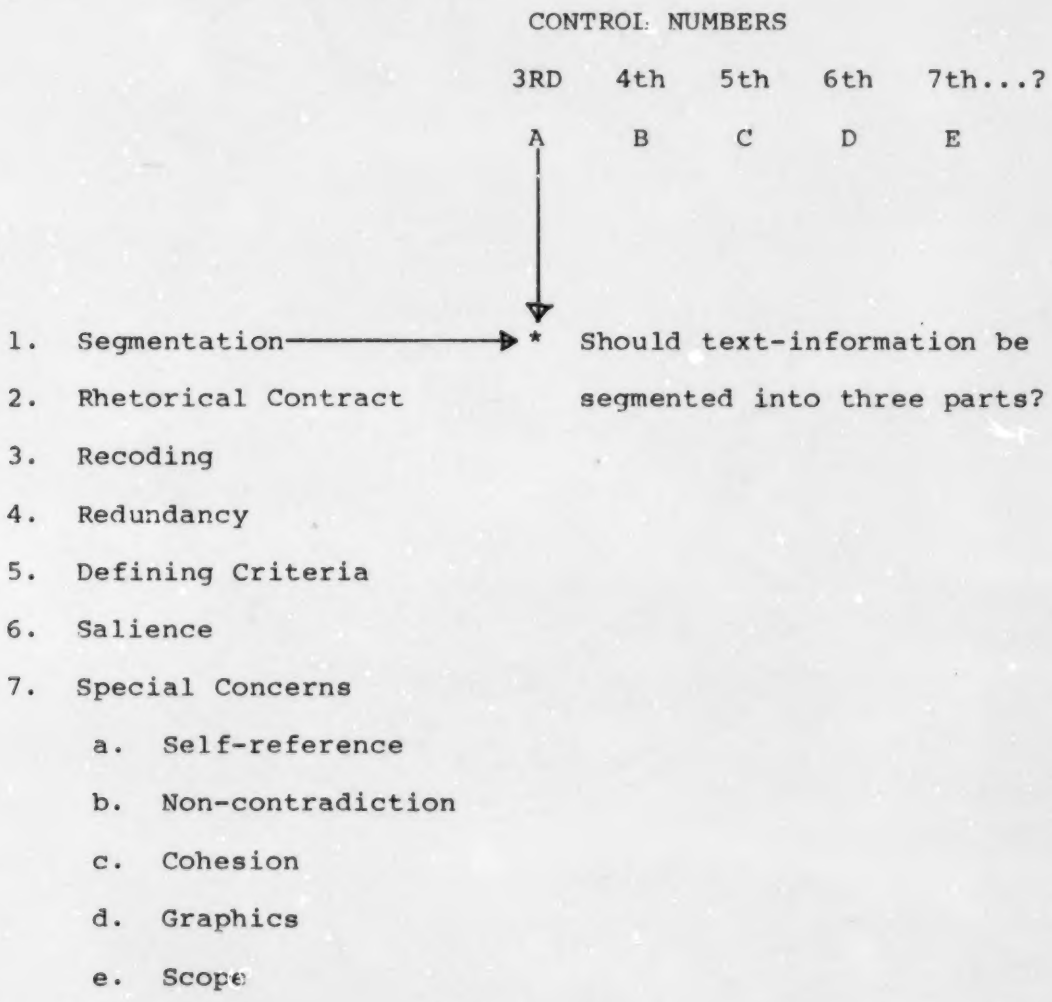

Figure 1.

An alternative form of the Matrix is given in the Appendix (Figure 5.).

CONTROL NUMBERS

> Control [is] knowing what to do next. Terry Winograd, "Formalisms for knowledge."

Reasons for these specific Numbers can be given by considering three questions:

1. What is a Control Number?
2. Why the prominence of third (3RD), the first Number on the horizontal axis?
3. Why the terminal seventh (7th)?

The function of a Control Number will be better known, I believe, after the Concerns are defined. But for now we can say that it means the conscious use of something very familiar to give shape to an Organizing Concern. The Concern is known through the Number much like any person or thing is known through its name, location, etc. Also a Control Number resembles a "halting" routine in a computer program. It tells the user when to stop doing what she has been doing; alternatively, that all the instructions for accomplishing the task in question have been assembled. Thus the correlation above, A*1, can be interpreted as "Divide information about the subject into three parts and then stop." Executing it as a text-structure could then take the form of either (i) or (ii):

> (i) Like BASIC, BPL is intended as a conversational programming language. The user interacts with the system and may give (a) commands, (b) indirect statements, and (c)

> direct statements (M. H. Williams, "The Programming Language BPL," The Computer Journal, vol 25, no. 3, 1982, p. 289).
>
> (ii) In our discussion of the opening component of the report, we have divided it into three sections: the heading segment, foreword segment, and summary segment (J. C. Mathes and Dwight W. Stevenson, Designing Technical Reports [Indianapolis: Bobbs-Merrill, 1976], p. 76)

That is, both (i) and (ii), despite their differences, present information as a whole divided into three parts.

NO LESS THAN THREE

Why give "thirdness," to use C. S. Peirce's term, the most prominence as a Control Number?[2] One reason is its popularity, as such, with rhetoricians and composition-specialists. Aristotle, for example, divides the rhetorical situation into three parts (ethos/logos/pathos), and both Cicero and Quintilian say that every speech addresses three questions, "Does it exist?" (an sit), "What is it?" (quid sit), and "What kind of thing is it?" (quale sit).[3] Thirdness also appears, in various ways, in Mathes and Stevenson and Young, Becker and Pike.[4] In both are the three-by-three matrix (three rows intersecting three columns) used to represent matters of audience and structure. And one finds in Mathes and Stevenson many examples like this:

> To the writer faced with these three tasks--segmenting, selecting and arranging his material--the report's middle may seem an unmanageable, amorphous mass of information (p. 97; cf. p. 93 [the Aristotelian "beginning, middle, and end" metaphor]).

A second reason, one that is perhaps the most persuasive to students of technical writing, is the many examples of thirdness in scientific thinking. Consider, for example, the three Boolean operators, "and," "or," and "not," the three dimensions of every spatial object (height/depth/length), the three qualities of color (hue/brightness/satuation), or the three control structures of computer programming (sequence/if-then-else/do-while). Three has also been characterized as the first natural number that "introduces the infinite progression into the number-sequence,"[5] and as the prime number essential for defining all other prime numbers and "large enough" even numbers.[6]

Finally, there are the intuitions of scholars like C. S. Peirce,[7] Marvin Minsky[8] (both of whom are mathematicians), and the anthropologist, Edmund Leach.[9] Each of them understands, in part, the third thing as a mediating (or relating) principle. One that relates two, often opposing, things to each other through a "mean." Minsky cites the example of Goldilocks and the Three Bears, the "too cold/just right/too hot" porridge, or the "too soft/just right/too hard" beds. In Leach's opinion, the mediating third is always an "anomalous" category:

> Binary oppositions are intrinsic to the process of human thought. Any description of the world must discriminate categories in the form 'p is what not-p is not....' 'Mediation" [of the oppositions] is always achieved by introducing a third category which is 'abnormal' or anomalous' in terms of ordinary 'rational' categories.

One might mention, in passing, the ethical system of

Aristotle. In it the "mean," which is the right ethical state, is only known through two opposing states, moderation by reference to rashness on one hand and cowardice on the other; or the "great-souled man" by reference to the "small-souled man" and the "vain" one (Nicomachean Ethics, IV, iii). Aristotle even goes so far as to say that opposites always generate their "mean" (Ethics, IV, iv). One this view, one shared by Leach, a dichotomy, of necessity, generates a trichotomy. Failure to see this is, in a sense, failure to look hard enough. Was Ramism, a famous attempt to dichotomize logic and rhetoric, an example of such failure?[10]

Seven, the Control Number that terminates the horizontal axis is considered far less important, and less fixed, than three. That is, we might want to go to a higher number because we need more control or perhaps more discreteness in the way we represent information. (This feature is represented by the "...?" on the horizontal axis of the Matrix.)

Nevertheless, there is good reason for taking seven as the usual terminus. Consider first its prominence in classifying discrete entities:

a. Seven Seas/Seven "mad gods" of the sea (S. Crane, The Open Boat).

b. Seven days of the week/Seven Sacraments (of the Christian Church).

c. Seven ages of man (Shakespeare).

Seven marks a more-or-less limit on our ability to discriminate musical tones, or to remember digits.[11] Or, if we dislike the

idea of limits on information processing, we can talk about seven as the "optimal" number. Thus most languages seem to have about seven wh-questions (what, who, where, when, how, how much, why), seven "core" prepositions (in, on, by, with, around, of, to), and seven, minimal, phonemic processes.[12] To conceptualize seven this way is to say with Beer that seven marks the "brain's discriminatory capacity to...hold [things] together synoptically."[13] That is, beyond seven our cognitive control on information processing becomes more difficult and uncertain.

ORGANIZING CONCERNS

A Concern, in its most general sense, is anything we worry about in giving structure to a text. Does it convey information in the most economical way? Will it help the reader to hold information in her memory? Does it help the author execute the rhetorical intention of the text? Obviously, we cannot discuss all these topics with students--nor can I in this essay. The ones I have here are, on the whole, ones I use to get students started on thinking about organization. Other, more problematic Concerns (the role of memory, the use of text-questions, etc.), are ones I reserve for conferences and individual projects.[14] (Concerns the present reader thinks should be here could, of course, be added to the Matrix; or could be substituted for present ones.)

My warrants for these Concerns are (1) that they are topics in much professional literature on text-organization, (2) are ones we can illustrate with existing texts, (3) ones that have the most generality, or (4) ones that students have told me

have been most useful to them as places to start thinking about organization.[15]

CONCERN 1 (Segmentation): This is perhaps the most basic Concern of all. It is essentially the "divide and conquer" strategy. In correlation with thirdness it is especially useful in sorting out some initial aspects of a technical problem. Suppose, for example, the problems are these:[16]

(A) Controlling the amount of water needed to irrigate potatoes.

(B) Designing a tool to cut, and shape, a colonial-style handrail for stairs.

You decide to partition these into causes (origins) of the problem, consequences (effects) and its solution. Each of these can then be encoded as questions:

(A) Irrigating potatoes.

(a) Causes. Does the essential cause of this problem lie in the difficulty of a reliable instrument for measuring the quantity of water in the soil? In climatic variables like temperature, amount of rainfall, or type of soil?

(b) Consequences. What are the effects of not enough water? Of too much? How do the economic effects of a good, or bad, harvest correlate with the price of potatoes on that harvest-year?

(c) Solution. The development of an instrument for measuring the optimum amount of water for this particular potato patch; one that is more reliable, say, than the currently-used tensiometer.

(B) Colonial-style handrail.

(a) Causes. There is a great demand for this type of rail, but no efficient, and cost-effective, way to cut enough to meet the demand.

(b) Consequences. Loss of a potential market for the local handrail company. Loss of public confidence in the company.

(c) Solution. Hire a tool-maker to design the appropriate tool.

A useful distinction we can make in the "Solution" part of the problem is that between a potential, and an actual, one. In (A) the solution is only potential; there is not now a reliable instrument for measuring ground water in soil for potatoes. In (B) however, the solution is an actual one. The company in question did employ a tool-maker to design the needed tool.

Segmentation by a Control Number higher than three is not as common but it does occur. In Birds: Readings from the Scientific American (W. H. Freeman, 1980), the subject is divided into seven parts and encoded under these headings:

I: Diversity of Birds

II: Flight

III: Migration and Navigation

IV: Evolution

V: Behavior

VI: Physiology and Song

VII: Birds and People

Substituting a higher number for three, as I suggested earlier, is perhaps dictated by the feeling that more discreteness, more

complexity, is needed in the description of the subject.

CONCERN 2 (Rhetorical Contract) This is a pact the author makes with the reader to do X, to discuss the subject in a certain sequence, or perhaps present a certain kind of evidence about it.[17] In the following, for example, the author promises to answer three discrete wh-questions, "when," "who," and "why":

> What can archaeology and its related disciplines do to explain the odd phenomenon such as the Peruvian ground drawings? Three questions that seem difficult to answer arise immediately: When were the drawings made? Who made them? Why did they make them?...the first two of the questions have been answered beyond doubt. As for the third question, a number of reasonable conjectures can be proposed. Here I shall review the steps that have led both to answers and to the conjectures (William H. Isbell, "The Prehistoric Ground Drawings of Peru," Scientific American, vol. 239, no. 4, October, 1978, p. 140).

Text-structures like a Table of Contents or Preface is typically used to state the rhetorical contract. With it, the author promises, tacitly, to discuss the subject in a sequential way.

In discussing the possible correlations between Concern #2 and a discrete Control Number I find it helpful to raise the following kinds of questions:

a. Why did the author of the above text use only three wh-questions? Is it because of the limitations of the reader's memory for text-information? (The three wh-question series, we

have found, is very common in the Scientific American.)

b. If you tell the reader you are going to discuss four aspects of the subject, but actually only discuss three, does this constitute a violation of the contract?

c. Is there a tacit contract in all numbers used to signal divisions in the text? That is, if you open a paragraph with the word "First," does that mean you have contracted to supply following paragraphs that open with a "Second," and perhaps a "Third"? (This "First/Second/Third" pattern is very common, for example, in Devendra Sahal's Patterns of Technological Innovations [Addison-Wesley: 1981], pp. 89-90, pp. 229-231; cf. Mathes and Stevenson's Designing, pp. 45-46.)

CONCERN 3 (Recoding): This Concern says, in effect, "look and see if information should be recoded (modified) by some other Control Number." Suppose, for example, your present text-structure has five parts. Would it be better to try to reduce them to four or to three? Or increase them to seven? A way to implement this Concern in the classroom is to ask students to recode the seven-part structure of Birds (mentioned on p. 8) using some lower number. The Matrix itself can also be used in this kind of exercise: Should its seven Concerns be recoded as five? Should Concern #7 be recoded as three sub-Concerns instead of five?

(Here one can take the opportunity to discuss where and how coded information should appear in the text. In its Table of Contents? Headings? Captions? Should different sized letters be used? Italics? etc.)

CONCERN 4 (Redundancy): This, in essence, involves trying to maximize chances that one's message will get through to the reader. It presupposes, then, the "possibility of failure," or at least "message-fatique." Redundancy with this meaning is a large topic in linguistics, information-theory and even biology.[18] And I obviously cannot touch on all its aspects here. But its general meaning, in terms of the Control Numbers, can be formulated like this: "If X is an important part of your text, say, its thesis, then repeat X at least three times in the text. But repeat it in a different way each time."

The key to a successful use of Redundancy, as Norman points out, is concealing the fact that you are being redundant. And this involves the use of different modes of expression for the same message (idea). I suggest to students that they consider these:

a. Stating/interrogating/commanding. That is, use a statement, a question and an imperative to convey the same message.

b. Synonymy. Use different terms, for example, "salience/leading/prominence," that mean essentially the same thing.

c. Illustrate what is written with graphic symbols, the concept of thirdness with a triangle, fourness with a square, etc.

This Concern, perhaps more than any other, shows the prominence of three as a Control Number. That is, repeating X three times is usually sufficient to overcome message-failure. (Here one might bring into the discussion, by way of analogy, the "three-way" redundancy of aircraft like the Boeing 747, its three

hydrolic systems, guidance systems, etc.)

CONCERN 5 (Defining Criteria): With this we ask how many criteria we should use, in the text, to define the subject. In (i), for example, the author uses three; in (ii) five and in (iii) seven. Criteria in (ii) and (iii), in the interest of space, have simply been listed and a paraphrase given of their intention.

(i) Nymphomania can be defined in terms of three distinct elements: Marked increase in sexual drive; extremely frequent partner sexual behavior; promiscuity (Stephen B. Levine, "A Modern Perspective on Nymphomania," Journal of Sex and Marital Therapy, vol. 8, no. 4, 1982, p. 317).

(ii) Classification of "automata," for example, a computer.

1. Causality. Is it deterministic or nondeterministic?
2. Size. Is it fixed, growing, or infinite?
3. Input/Output. Is it discrete or continuous?
4. Clock. Is it synchronous or nonsynchronous?
5. States. Finite or infinite?

(Frank S. Beckman, Mathematical Foundations of Programming [Addison-Wesley: 1980], pp. 225-226.)

(iii) In all languages with "classifier" nouns (nouns that classify real-world entities on the basis of their salient properties) such nouns fall into seven discrete categories:

1. Material (of entity)
2. Shape
3. Consistency

4. Size
5. Location
6. Arrangement
7. Quanta

(Keith Allan, "Classifiers," Language, vol. 53, no. 2, 1977, 285-311.)

With any number about three, as in (ii) and (iii), I ask my students to think about Recoding. Could the five in (ii) and the seven in (iii) be recoded as three? Or does the complexity of the data, plus the need to make it explicit, resist this?

CONCERN 6 (Salience): Salience is one result of hierarchical thinking. If, for example, we have the criteria A, B, C, and D should we represent one of them as being salient over the others? Or should we assume that they are equal in value? That there is a relationship of non-salience between them? In the Numbers Matrix, for example, three is considered salient over four, five, etc. In Mathes and Stevenson's Designing the topic of audience and rhetorical purpose has salience over, say, graphics or special report formatting.

If Salience is also defined as a relationship, then we can say that A is salient over B, C, and D (Figure 2), A is salient over B which is salient over C (Figure 3); or that the presence of A means the existence of B or the absence of A the existence of C (Figure 4). This last is essentially the "If-then-else" control structure of computer programming:

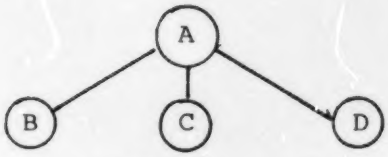

Figure 2.

Figure 3.

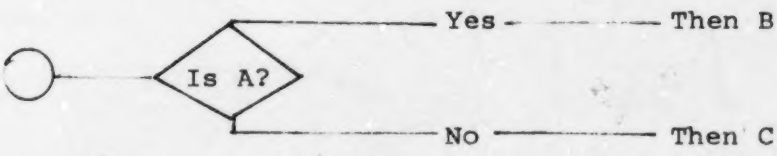

Figure 4.

Figures 2 and 3 can be used to illustrate two ways of representing the technical problem (discussed on pp. 7-8). Are the Causes of the problem salient over its Consequences and Solution? Or is the Solution the salient issue? In this context Salience might be interpreted as the most complex or even the untractable issue of the triad.

I invite my students to think of Figure 4. as one model for writing instructions, how to open a file in Wordstar, how to clean a shotgun and the like.[19] Some things have to be done before other things can follow. With Wordstar (the word-processing system), for example, the "No-help" menu must be set before justification (of margins) can be turned off; "No-help" cannot be set after the file is opened.

Three is the typical Control Number for this Concern. But the need for more specificity, or discreteness, in the representation of information can cause the user to go to a higher number. This happens most often with Salience when it is

given an hierarchical relationship (Figure 3.) Each added member is used to represent a discrete bit of information about the subject.

CONCERN 7 (Special Concerns) This Concern can be used to illustrate Recoding--subsuming what we consider less general under what we think is more general. But I think of it primarily as a omnium gatherum Concern. What does not fit in any of the other Concerns can be put here; alternatively, Concerns applicable only for special reports, one's own pet theories about organizing, and the like.

The ones listed here are special Concerns I have discussed in conferences with students. To save space, I list their general meaning as questions, and refer the readers to the footnotes for more details about them:

a. Self-reference. Does the text call "attention" to itself? Does it take itself as its own subject and data? [20]

b. Non-contradiction. If A, B, C, and D constitute the parts of text-structure is there any contradiction between them? Does A, say, contradict C? What Control Number is best for running tests on contradiction?[21]

c. Cohesion. What Control Number seems best for representing cohesion in the text? (With this Concern much recent work on text-cohesion can be brought into the discussion.)[22]

d. Graphics. How should a Control Number be applied to graphics? By types? By the elements in one type? Consider, for example, the use of color in graphics. Do you need three, four, or five colors to illustrate a concept, or show the parts of a

mechanism? How many colors are used in the illustrations in the Scientific American

e. Scope. Is the scope of the Control Number over the whole text, or only over a part? If the latter, does consistency in coding demand its extension to the whole text?

SUMMARY

> The next great advance will be a theory of learning oriented towards procedures. Patrick Winston, "Learning to identify toy block structures."

The Matrix has several features I think one should emphasize in discussing it with student-users. First, it should not be taken as a"black-box" system. One can always add new concerns to it, substitute new ones for old ones, or experiment with different kinds of correlations. Secondly, it does not presuppose any specific technical information, special report-format, or rhetorical intention. The user can employ it to write an individual report, prepare a group-project, or give an oral presentation. And it can be used as a visual aid in all these assignments.

Finally, it is essentially a heuristic (non-algorithmic) procedure. It contains no promise of "if you do this and this then you will always get this as the result." Rather, it is more like "try this, with this intention and this technique, and see if the result satisfies you."

ACKNOWLEDGMENTS

I am indebted to colleagues who read earlier versions of this essay: Mary Washington, Jack Scherting and Willis Pitkin, Jr.

APPENDIX

An alternative form of the Matrix is the grid-form (Figure 5.). Much like an electronic spreadsheet (VisiCalc, SuperCalc, etc.), one represents a correlation as an information "cell" with a name like A*1, B*2, or C*3 as its "address":

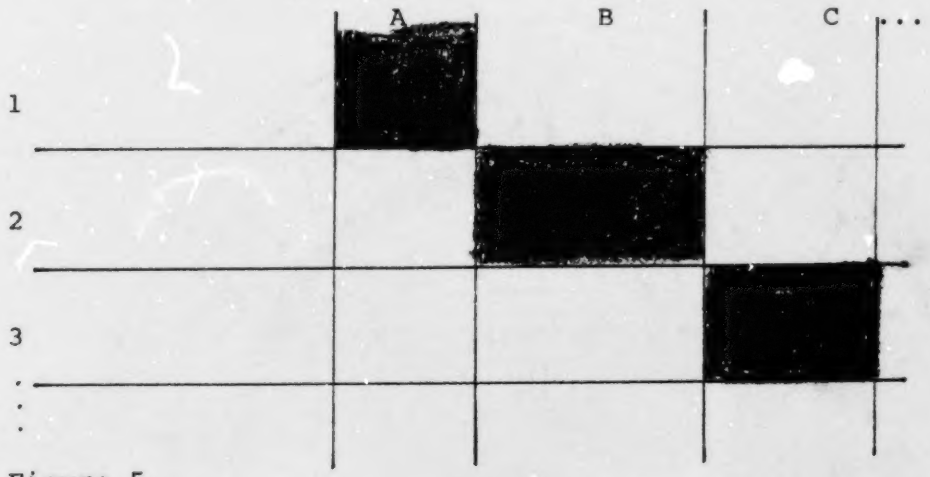

Figure 5.

NOTES

[1]For articles that deal directly with structures for specific kinds of reports see, for example, Dennis E. Minor, "Teaching the Technical Writing Proposal," The Technical Writing Teacher vol. 3, no. 1, 1979, 24-27; Kitty O. Locker, "Teaching Students to Write Abstracts," The Technical Writing Teacher vol. 10, no. 1 1982, 17-20; Suzanne P. Fitch, "A Comparison of the Scientific Paper and the Problem/Solution Speech," Journal of Technical Writing and Communication vol. 13, no. 1 1983, 29-32.

[2]"On Signs and the Categories," in Problems in the Philosophy of Language, ed., Thomas M. Olshewsky (New York: Holt, Rinehart, and Winston, 1969), pp. 22-30.

[3]Rhetoric (1355 b, 1403 b); Cicero, Orator, XIII, 42; Quintilian, Institutes, III, vi, 8.

[4]J. C. Mathes and Dwight W. Stevenson, Designing Technical Reports (Indianapolis: Bobbs-Merrill, 1976), pp. 15-17; p. 23 (matrix). Richard E. Young, Alton L. Becker and Kenneth L. Pike, Rhetoric: Discovery and Change (New York: Harcourt, 1970), pp. 89-90; p. 155; p. 127 (matrix). See also James L. Kinneavy, A Theory of Discourse (New York: Norton, 1971), pp. 18-33 (the "communication triangle").

[5]Karl Menninger, Number Words and Number Symbols: A Cultural History of Number, trans., Paul Braneer (MIT, 1969), p. 17. Menninger also says, more colorfully, that three represents "the step across the threshold of darkness...into the prosaic but clear, bright light of practical life" (p. 18).

[6]Carl Pomerance, "The Search for Prime Numbers," Scientific

American, vol. 247, no. 6, 1982, 136.

[7]Peirce, p. 23: "Thirdness is the mode of being of that which is such as it is in bringing a second and third in relation to each other."

[8]Minsky's remarks came at the end of a lecture on the number three and issues in "meaning": Utah State University, July 22, 1982.

[9]Genesis as Myth (London: Jonathan Cape, 1969), p. 11.

[10]After Peter Ramus (Pierre de la Ramee, 1515-1572). On Ramus' radical dichotomizing see Walter J. Ong, Ramus, Method, and the Decay of Dialogue (Cambridge: Harvard, 1958), pp. 199-202, pp. 204-205, p. 211; cf., Jane R. Walpole, "Ramus Revisited: The Uses and Limits of Classical Rhetoric," Journal of Advanced Composition vol. 2, nos 1-2, 1981, 233-245.

[11]Details in George Miller, "The Magical Number Seven, Plus or Minus Two: Some Limits on our Capacity for Processing Information," The Psychological Review, vol. 63, no. 2, 1956, 81-97.

[12]In the so-called Features Specification system of description. The processes are: anterior, ccronal, continuant, voiced, nasal, strident and sonorant.

[13]Stafford Beer, "On Heaping our science together," in Progress in Cybernetics and Systems Research, vol. 2, ed., Robert Trappl (Washington, D. C: Hemiphere, 1975), p. 6.

[14]The reader familiar with recent work in discourse theory text-linguistics and cognitive psychology might want to add Concerns like these to the Matrix: (1) Frame theory, (2) Inference, (3) Given/New information.

[15]By "professional" work on text-organization I mean those like Robert de Beaugrande, "Cognitive Processes and Technical Writing: Developmental Foundations," Journal of Technical Writing and Communication vol 12, no. 2, 1982, 121-145; Patricia Wright, "Five Skills Technical Writers Need," IEEE Transactions on Professional Communication, PC-24:1, 1981, 10-16; and my own, "Control Structures: Modeling Aspects of the Technical Text," Journal of Technical Writing and Communication vol. 2, no. 2, 1982, 147-153.

[16]I owe these problem examples to my students Rod Lake and Ralph Rome.

[17]Cf., Herbert H. Clark and Susan E. Haviland, "Comprehension and the Given-New Contract," in Discourse Production and Comprehension, ed., Roy O. Freedle (Norwood, N.J: Ablex, 1977), 1-40.

[18]Semantics, I (Cambridge, 1977), pp. 44-45; Lila L. Gatlin, Information Theory and the Living System (New York: Columbia, 1972), pp. 69-72; cf., Liane Norman, "Risk and Redundancy," PMLA, vol 90. no. 2, 1975, 285-291.

[19]Cf., Donald H. Cunningham and John H. Mitchell, "Teaching the Writing of Instructions," in Courses, Components and Exercises in Technical Communication, ed., Dwight W. Stevenson, et. al (NCTE: 1981), 136-143.

[20]Cf., Paul V. Anderson, "Organizing Is Not Enough!," in Courses, pp. 163-184.

[21]On testing for contradiction in systems-design see, for example, Glenford J. Myers, Reliable Software Through Composite Design (New York: Petrocelli/Charter, 1975), pp. 70-71, pp. 112-113. ("Top-down" testing.)

[22]Major works on cohesion include, R. Hasan and M.A.K. Halliday, Cohesion in English (Longman: 1976); W. Gutwinski, Cohesion in Literary Texts (Mouton: 1976); Robert de Beaugrande and Wolfgang Dressler, Introduction to Text-Linguistics (Longman: 1981).